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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HANEY, MATTHEW J

ART UNIT PAPER NUMBER

2613

DATE MAILED: 02/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/067,346

Applicant(s)

TODOROKI, AKINARI

Examiner

Matthew Haney

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☒ Claim(s) 11-13 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Allowable Subject Matter

1. Claims 11-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3, 4, and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Midorikawa (US 6,373,893).

As for claim 1, Midorikawa teaches of main storage division (i.e. DRAM (102)) has a frame storage division for storing frame data for performing the motion compensation process (Column 9, Lines 66-67 and Column 10, Lines 1-4); said dedicated storage division (i.e. internal memory) stores, of the frame data stored in said frame storage division, the frame data of a predetermined address highly likely to be referred to in the motion compensation process (Column 10, Lines 5-16); and said motion compensation processing division (i.e. motion vector detecting unit (104))

performs the motion compensation process by referring to the frame data stored in said dedicated storage division (Column 10, Lines 17-21).

As for claim 3, Midorikawa teaches of said dedicated storage division stores the frame data of 48 lines close to the line including the frame data to which the motion compensation process is performed (Column 22, Lines 25-49).

As for claim 4, Midorikawa teaches of each time the motion compensation process is finished for the frame data of 16 lines, said dedicated storage division reads from said frame storage division the data of predetermined 16 lines to be used for the subsequent motion compensation process (Note: Midorikawa teaches that 1/3 of the 48 x 46 region is stored at a time, and only 1/3 is rewritten at a time, Column 22, Lines 30-67 and Column 23, Lines 1-15 show how only 1/3 of the new data is read in and the first 1/3 stored is pushed out once it has been used, Column 20, Lines 34-40 shows the use of 16 lines).

As for claim 7, Midorikawa teaches of said motion compensation processing division has an address administration division for administering the address of the frame data stored in said division; and dedicated storage in the case where the frame data of the address referred to by said motion compensation processing division is not stored in said dedicated storage division, said address administration division reads the frame data stored in said frame storage division to said motion compensation processing division, and said motion compensation processing division performs the motion compensation process by referring to the read frame data (Note: Column 18,

Lines 29-65 show that the motion detection unit generates the addresses necessary to access either the internal or external memory depending on what is needed).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Midorikawa (US 6,373,893).

As for claim 2, Midorikawa does not specifically teach of storing 80 lines of the frame data in the dedicated storage division (i.e. internal memory), however, Midorikawa does make a general teaching where any number of lines (i.e. data) can be read into the internal memory (Column 22, Lines 25-29). Midorikawa takes into account larger read in the design of the invention because Midorikawa reduces the image data read from the external memory before storing it in the internal memory. It would have been obvious to one of ordinary skill in the art at the time of the invention to read a larger quantity of lines so that more current blocks (i.e. blocks have motion compensation performed) would have their subsequent reference block available within the internal memory, causing more calculations to be performed without complicated accessing of the external memory.

5. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Midorikawa (US 6,373,893) in view of Komori (US 6,493,391).

As for claim 5, most of the limitations of the claim have been discussed in the above rejection of claim 1. Midorikawa does not explicitly teach of said dedicated storage division can supply the stored frame data to the motion compensation processing division and a continuous decoding division for performing a continuous decoding process, however, Komori does (Figure 1, dedicated store (17) supplies data to the motion compensation (19) and to the decoding division (20)). It would have been obvious to one of ordinary skill in the art at the time of the invention to also allow the dedicated storage to supply the continuous decoding process so that there is no need for an extra buffer to be placed in the circuit for decoding purposes.

As for claim 6, most of the limitations of the claim have been discussed in the above rejection of claim 5. Komori also teaches of adding a post filter (included in Figure 1, reference number 20) to the continuous decoding process (Column 14, Lines 5-13). It would have been obvious to one of ordinary skill in the art at the time of the invention to add the post filter process in order to correct any de-phasing of the pixels.

6. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Midorikawa (US 6,493,391) in view of Malladi (US 5,912,676).

As for claims 8-10, most of the limitations of the claim have been discussed in the above rejection of claim 1. Midorikawa does not explicitly teach of said frame storage division has a first and a second storage divisions capable of storing the frame

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data of one frame respectively, and said first storage division stores processing results outputted by said motion compensation processing division, and said second storage division stores the frame data for performing the motion compensation process, however, Malladi does (Figure 4 and Column 9, Lines 19-26, also see Column 9, Lines 66-67 and Column 10, Lines 1-62). It would have been obvious to one of ordinary skill in the art at the time of the invention to allow both frame data and motion compensated result data to be stored in the same place because this would allow for a more cost efficient design.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew Haney whose telephone number is 703-305-4915. The examiner can normally be reached on M-Th (5:30-3:00), Every Other Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on 703-305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Matthew Haney
Examiner
Art Unit 2613

mjh


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